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ABSTRACT

Positive, neutral, and negative verbal interaction data were collected from 2 schools in which 15 elementary summer school teachers interacted with 261 migrant and non-migrant students. These pupils were specifically identified as migrant or non-migrant. These data were then mpared with the teacher's perception of the pupil as migrant or non-migrant. Summary data on the significant differences in teacher behavior indicated that more teachers in each of the categories of positive, neutral, and negative behavior interacted less with migrant students than with non-migrants. Twice as many teachers in the positive class and more than 3 times as many in the neutral interacted less with migrants. The totals of significant teacher behavior were almost equal in the negative category. It was further concluded that teachers with a more direct teaching style tended to favor the non-migrant student. It was recommended that a replication of this study be conducted during the normal school year to ascertain whether the same results would be found and whether a study objectively identifying migrants and non-migrants would have similar findings. (HBC)

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A COMPARISON OF THE VERBAL BEHAVIORS OF TEACHERS IN INTERACTION WITH MIGRANT AND NON-MIGRANT STUDENTS

by

Alexina M. Tyo

NEW YORK STATE
CENTER FOR MIGRANT STUDIES

1972

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Geneseo, New York
14454

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NEW YORK STATE CENTER FOR MIGRANT STUDIES

The New York State Center for Migrant Studies is an independent organization devoted to professional research in the areas of education, employment, community relations and other aspects of the conditions of migrant labor in the State of New York.

The principal purposes are to initiate studies relevant to understanding and improving the conditions of the migrant, and to publish and disseminate these studies. The New York State Center for Migrant Studies, co-sponsored by the New York State Education Department's Bureau of Migrant Education, John Dunn, Chief, and the State University College of Arts and Science at Geneseo, New York, Robert W. MacVittie, President, was founded in February 1968.

The study has been recommended for publication by the Publications Committee of the Executive Council of the Center as an important contribution to the understanding of the migrant problem. It has been approved by the Executive Council of the Advisory Board of the Center except as specifically indicated and supercedes all previous drafts released for private circulation prior to publication. However, the interpretations and conclusions of the study are those of the author and do not necessarily represent the official position of the Center.

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CHAPTER I

INTRODUCTION TO THE STUDY

The Problem

The agricultural system of the United States depends largely upon an itinerant force of farm workers to harvest those crops which must be hand-picked as they ripen and mature. These migrant workers are usually uneducated, impoverished and often handicapped by having a foreign language or a regional dialect as their chief means of communication. From May to mid-October, migrants are in New York State spending usually no more than six weeks at any one camp. Consequently, the education of their children is very piecemeal, with few programs ever followed from inception to completion.

New York State, the sixth largest user of migrant labor in the United States, established a Bureau of Migrant Education to assist in providing what they hope to be the best possible learning opportunities for migrant children. Special programs have been developed and implemented with the assistance of qualified educators. In 1968, the New York State Center for Migrant Studies was established at the State University College in Geneseo, New York. According to the Focus (1968, p. 1), the goals and objectives of the Agency are:

1. To serve as a development center which would conduct studies on migrant culture.
2. To provide communities with assistance in improving community-migrant relations.
3. To serve as an information center.
4. To offer assistance and leadership in planning education for migrants in both summer and regular school terms.
5. To assist communities with proposals for programs to be financed by federal and/or state funds.
6. To assist communities in setting up education and recreation programs that include migrants.
7. To develop and test educational methods and materials for use with migrant adults and children.
8. To provide consultants for national and state organizations concerned with migrant affairs.
9. To serve as a conference center for area school districts serving migrants.
10. To assist the Bureau of Migrant Education of the New York State Education Department with migrant education projects through such means as workshops, etc.

Summer school programs have been established in many other states, intended to assist in bridging the gaps of the migrant children's education. The effectiveness of such programs may be influenced, among other things, by such factors as: the behaviors the teachers exhibit towards the migrants; the child's perception of the role of the teacher; the child's perception of the value of education as dispensed in the schools to which he has been exposed; the quality of the inservice training of the teachers and aides; the teacher's attitudes and perceptions of the students; the child's goals in life; and the validity of the tests which were administered to the children.

Research by Rosenthal and Jacobson (1968) suggest that the teacher's perceptions of the pupils may affect the quality of their education. A study by Kranz (1970) seemed to indicate that the teacher's perceptions of the pupil affected the quality and quantity of interactions between the teacher and pupils.

In this study, also, the perceptions of the teachers were used as the way of classifying children as migrant or non-migrant. The verbal interactions were observed in reference to this perceptual classification.

The purpose of this particular study was to compare the verbal behaviors of teachers in interaction with migrant and non-migrant pupils in the same classroom. The following questions were explored:

1. Are there significant differences concerning the teachers' behaviors between the verbal interactions with migrant and non-migrant students?

2. Are there significant differences concerning the defined positive teacher behaviors between the verbal interactions with migrant and non-migrant students?

3. Are there significant differences concerning the defined neutral teacher behaviors between the verbal interactions with migrant and non-migrant students?

4. Are there significant differences concerning the defined negative behaviors between the verbal interactions with migrant and non-migrant sutdents?

These questions led to the formulation of the following hypotheses:

H_1 Teachers do not interact with students perceived as migrant and non-migrant in the same ways.

H_2 Teachers have more positive verbal interactions with students perceived as non-migrant than with students perceived as migrant.

H_3 Teachers have more neutral verbal interactions with students perceived as non-migrant than with

students perceived as migrant.

H_4 Teachers' verbal behaviors towards children perceived as migrant are more negative than towards children perceived as non-migrant.

The Design and Procedures of the Study

The general procedure of this study was to collect verbal interaction data on each teacher, and to identify in each instance the pupil to whom this behavior was directed. These data were then compared with the teacher's perception of the pupil as migrant or non-migrant.

The sample consisted of fifteen elementary summer school teachers having both migrants and non-migrants in the classroom in interaction with two hundred and sixty-one migrant and non-migrant pupils in two schools. Two types of data were collected: teacher perception data and teacher verbal behavior data. The teacher perception data were obtained by requesting the teachers to identify each pupil as migrant or non-migrant upon completion of the observation period. The teacher verbal behavior data were obtained by a modification of the Flanders Interaction Analysis System. The modifications permitted the identification of the pupil to whom the verbal behavior was directed and changed the time span between recordings from three seconds to five seconds to permit increased notations in the system. Approximately one hundred and fifty minutes of data were collected in each classroom. Seating charts of the class were provided by each teacher prior to the observation period. Each pupil was numbered on this chart to permit the observer to record the identity of the pupil with whom the interaction took place.

Definition of Terms

The following terms were defined as having special meaning for the purpose of this study.

Migrant

Migrant referred to the teacher's perception of the child as belonging in this category and identifying the child thus.

Non-Migrant

Non-migrant referred to the teacher's perception of the child as belonging in this category and identifying the child thus.

Positive Teacher Behavior

Positive teacher behavior referred to those teacher behaviors which tend to positively reinforce the pupil including acceptance of feeling, praise or encouragement, and acceptance of ideas.

Neutral Teacher Behavior

Neutral teacher behavior referred to those teacher behaviors which are concerned with asking questions, explaining, discussing, giving opinions, or giving facts or information.

Negative Teacher Behavior

Negative teacher behavior referred to those teacher behaviors which are concerned with restricting or directing pupil behavior, criticizing, and justifying authority.

Limitations

Generalizations based on the findings of this study are limited by these factors:

1. Only classrooms having a population of both migrant and non-migrant pupils were included in the study.

2. The study collected data only on verbal interaction.

3. A modification of the Flanders Interaction Analysis System was the only system used to record the pupil-teacher interaction.

4. All data were obtained during the summer school sessions.

Significance of the Study

The present system of preparing teachers and teacher aides to work with migrant children is based on an implicit assumption that teachers do not interact with migrant and non-migrant pupils in similar ways. This notion had not previously been researched in an experimental environment though it is included in a number of inservice training programs across the United States. Since the educational progress of children would seem to be influenced greatly by the nature and frequency of interactions with teachers, it would seem important to have accurate and meaningful research evidence of these assumptions.

CHAPTER II

REVIEW OF RELATED LITERATURE

This study examined the relationships in the verbal behaviors of teachers in interaction with migrant and non-migrant children in the same classrooms. The instrument used to identify the different behaviors was a modification of the Flanders System of Interaction Analysis.

The review of the literature presented here is divided into five sections. The first studies are concerned with identifying the characteristics of the migrant child and analyzing the educational problems peculiar to his mode of existence. The next segment examined the methods used for inservice training of teachers, and teacher aides involved in the teaching of migrant children. The third section reports on the attitudes of teachers, teacher aides, and migrant children. This is followed by a review of several studies on the effect of the teacher's perception of the student on the teacher's behaviors towards the student. The chapter concludes with a review of pertinent dissertations concerned with migrant education.

Studies Which Identify Characteristics of Migrant Children and Analyze Their Particular Educational Problems

The success of a large portion of the present system of agriculture in the United States is dependent upon the itinerary of the migrant workers who must harvest many of the crops by hand. These impoverished people are economically compelled to go wherever there is need for their labor. Consequently, they remain in the same region only until the local ripened crops have all been picked. During this period they are forced to depend upon the hiring farmer to supply them with whatever shelters and facilities he maintains for their temporary use on his farm. However, since migrants begin their tours in early spring and continue until late fall, most of their lives--as child and adult--are spent in such abodes.

A report on the State programs for the education of migrant children entitled, "Children at the Crossroad" (1970, p. 1) describes some of the major characteristics of this minority group. "They average a 4th or 5th grade education... These youngsters go to work early in life. The legal age is usually 12 or 13, depending on the State. Actually, migrant children find themselves in the fields earlier than that... The children travel with their families in flat-bed trucks or converted school buses... The family's worldly goods are often stuffed in a burlap bag or in an old bedspread tied at the four corners. There may be no meals for hours or days because

few roadside eating places will serve migrants... Usually they hardly know the language of the country they are passing through... A family may live in a space of 125 square feet... There may or may not be electricity instead of the swaying kerosene lamp, but there is always water--a single pump or faucet in the middle of the camp, serving 40 families."

A comprehensive study by Orr et. al. (1965) mentions the migrant low annual income which leads to their preoccupation with making a living--and the tendency to include the whole family in earning money. M. W. Tinney (1965) studied the educational problems of the migrants in southeastern Oklahoma and reported that migrant youngsters were overage for their respective grade levels, often by as much as three or four years. As grade levels ascended towards secondary school, the number and percentage of migrant sutdents enrolled in the school declined. He also noted that crop vacations frequently caused migrants to lose out on education.

These findings were supported by Stockburger (1967) when she presented her report to the National Committee on the Education of Migrant Children. In Fact Sheet No. 3, she stated that:

> ...the migrant child is in school usually two or three or at the most four or five months of the year; he is retarded in grade achievement and cannot be taught effectively by the usual methods; he is often unhampered by unenforced school attendance laws so is apt to work in the fields rather than study in the classroom; the migrant child makes few friends and forms few ties to school, teacher or classmates; continuously interrupted studies negate achievement and build formidable barriers to self-confidence and self-respect; lack of records...teachers inadequately prepared... teaching materials without relevance to the age of the child and the degree of his grade retardation or to his own cultural background compounds the difficulties of the teachers and of the schools.

Low motivation and poor health were educational problems reported by Moore and Schufletowski (1965). Lack of listening skills, the need for adjustment to the classroom situation, the lack of the student's ability to recognize consistent self and group discipline, and the need to develop appreciation for and understanding of the student's role in the community were described in A. E. Harris' (1967) evaluation report on the summer migrant program in Wichita County, Kansas.

Because these findings seem to be typical for most migrants, New York State has established a summer school program centered around five objectives which are intended to assist in bridging the gaps of the migrant children's education. These objectives listed by Mattera (1968, p. 16) in "Educating Migrant Children," are:

1. Improve his self-concept
2. Develop his social and academic skills
3. Develop his language ability and vocabulary
4. Expand his cultural experiences
5. Establish sound health and nutritional habits

Inservice Training of Teachers and Teacher Aides

That the traditional methods used to train teachers and aides were quite inadequate when applied to this specific situation became fairly apparent early in the summer school programs for migrant children. This was probably due to a variety of causes. Among these are: the negative attitudes of migrant children towards the school environment as studied by E. A. Plastrik (1968); the language problem of the migrants, which often resulted in lack of or incorrect interpretation of messages, as shown by Haviland (1969) and Southard (1967); the lack of adequate home facilities conducive to home studies as reported by Sutton (1960), Haney (1966), Shafer et. al. (1961), and Horan (1964); the conflicting value structures of middle-class teachers and migrant children as described by Mattera (1968).

How then are these obstacles to be overcome? R. B. Hooper, Jr. (1967, p. 4) listed the following objectives which could assist in this endeavor:

1. Show the teachers how to meet the disadvantaged on their own ground.
2. Expose the teacher carefully and thoroughly to the disadvantaged so he can free himself of any negative preconceptions he may have about these people.
3. Show teachers how to use teaching methods adopted to the migrants' learning styles.
4. Help teachers develop a distinctive teaching style.
5. Stress the teacher's awareness of the good things in the cultural behavior and style of these people, such as:
   a. The freedom of migrants from the strain which accompanies competitiveness.
   b. The migrant's equalitarianism, informality and humor.
   c. The freedom of migrants from self-blame and over-protection by parents.

Under Mattera (1969), the five objectives which were adopted by the New York State Center for Migrant Studies are being implemented in current teacher training programs. She maintains that the goals can "...best be achieved if the following experiences are provided:

1. Observation of use of recommended procedures with a group of children.

2. Utilization of these procedures, as well as those developed by the teachers under the guidance of consultants in each field (art, music, audiovisual, physical education, literature, etc.) with these children in a group and on a one-to-one basis.

3. Having videotapes made of these lessons for group and self-evaluation.

4. Opportunity to examine and use (or adapt for use) the latest instructional materials which are housed in a readily accessible materials center."

Other states are also actively engaged in developing training programs for teachers of migrant children. Texas, as reported in Children at the Crossroad (1970), has established institutes to train teachers and administrators and has also begun a teacher-exchange program. In 1967, forty-two Texas teachers followed the children north during the summer, visiting 18 states, observing children, and advising local school districts. At the same time, out-of-state teachers came to the Texas institute to study there. In 1968, a six-month program with 131 school days began its existence. Classes were extended to an eight-hour day with priority given to English language development.

California's unique contribution to the teacher-training program is the institution of the "Mini Corps" or Migrant Teacher Assistants. The major objectives of this program, as reported by Benner and Reyes (1967), are:

1. To encourage former migrants to continue their college education.

2. To provide a group of well-trained teacher assistants.

3. To increase these college students' interest in pursuing a career in teaching.

The United States Department of Health, Education and Welfare's report entitled Children at the Crossroad (1970, p. 7) suggested that the stated objectives of the Mini Corps was "for the children to be able to say to themselves in reference to the aide, 'He's a Mexican like me--his family is like mine--and he's a teacher.'"

To aid in training teachers, the California Department of Education (1968) suggests three phases for the migrant teacher-training program:

1. A three-week on-campus session during which the principles, problems, and practices of teaching are studied.

2. Supervised field experiences.

3. A two-day on-campus critique.

The use of bilingual teacher aides to assist in communication problems between the children and teachers is another important feature of the California attempt.

Teacher-training programs varied widely by state and district. Oklahoma State Department of Education (1968) listed a two-week workshop for teacher training. Since many of the migrants coming to Oklahoma spoke Spanish as their first language, a course in conversational Spanish was also included in the program. In 1970, as noted in Children at the Crossroad (1970), New Jersey experimented with a Micro-Social Learning Center in Vineland, and near Delaware Bay, Gino Baruffi used sensitivity training for his teachers. There are no data yet on the results of these efforts. Scott (1968) reported in his study that the time devoted to inservice training ranged from one to forty days with a mean time of 5.3 days calculated from 171 school areas responding. In another study by Caperton and Fitzpatrick (1967), the most effective methods, according to the administrators of the programs, were workshops, seminars and conferences.

Teacher aides for migrant education have been the subject of special studies also. Southard (1967, p. 27), in his New Mexico report, suggested that teacher aides should have certain competencies, namely:

1. Have skill in the operation of audiovisual devices and machines.

2. Have skill in the construction and production of curricular and instructional materials.

3. Be competent in record keeping.

4. Be competent in first-aid skills.

5. Be able to supervise the playground and luncheon.

6. Develop a perception of when they can engage effectively in custodial supervision and when the teacher must maintain an active leadership in supervision.

He also reported that the Mesilla Valley Public Schools in New Mexico used five eight-hour days of training for their aides in order to familiarize them with language-patterning techniques, follow-up activities and evaluation.

The Texas Educational Agency (1967) describes teacher aides as being completely under the supervision of a certified teacher with the assistants' activities being generally clerical in nature--assisting in supervision of

seatwork, listening to oral reading, and marking papers with the aid of a teacher-constructed key, but never being a substitute teacher.

Some migrant programs hire the older brothers or sisters or the mothers of the children as aides. Varner (1968) describes such a program in Imperial County, California. Brown (1969) reports on the great benefits of hiring the high school-age migrants as aides in Broward County, Florida, in their "Learn and Earn" program. Another variation of this plan is sponsored by the Office of Economic Opportunity (1964) in its Foster Grandparents Program which recruits, trains, and employs low-income persons over sixty years of age to serve neglected and deprived children who lack personal relationships with adults.

Attitudinal Studies of Teachers, Teacher Aides, and Migrant Children

A study of Plastrik (1968) examined the attitudes of migrant children toward typical social institutions, especially education. His preliminary findings included negative attitudes toward school environment which were reflected in the students' performance. He also mentioned few teachers were visited who "understood the cultural, personality, and educational disposition of these children," and the one sympathetic principal he did find was "handicapped by middle-class parent hostility and administrative fear. In no case were the insights in the last thirty years of research in social psychology and learning actually utilized in any systematic way in any school visited. Old-fashioned and not very effective social work attitudes by untrained persons were evidenced everywhere."

A sharp contrast to this is documented in Evaluation Report: Texas Project (1968, p. 26) in the section referring to teacher attitudes in the statement: "The participants and staff feel that this institute has achieved its general objectives in developing awareness of the migrant teaching programs and the needs of the migrant child. The high level of enthusiasm among participants is considered one of the high points of this Institute."

In the Regional Conference for Migrant Teachers held July 7, 1970, in Valatie, New York, Samuel P. Singletary (1970) stressed the importance of teacher attitudes to the migrant students and suggested taking time to understand this child, particularly his culture, to visit his home, to talk to his parents. He stated his belief that if these tasks were performed in an honest and dedicated manner that the young child will indeed learn and so become a greater asset to the American Economy.

The migrant child as an outcast from middle-class American ways was included in Kleinert's (1969) study in which he writes that the migrant learns of this status as soon as he begins school. Heffernan (1964) stresses how the differences in classroom norms in such areas as clothing, language, and cleanliness have a negative effect on the pupil's achievement and adjustment. These dissimilar factors were included in a program developed by the "Tutorial and Enrichment Program" in the Markham Elementary School of Pompano Beach, Florida (1969). It was designed to bring about a significant improvement in achievement in academic and non-academic areas of development. One interesting facet of this program is that the methods suggested were

tutorial and enrichment activities, including a system of token rewards which would be redeemed for pens, toothbrushes, etc.

Stockburger (1967) reported that the migrant child never really fits into the school community due to his mobility; and, therefore, he cannot make friends nor form ties to the school, teacher, or classmates. Under the present system, the schools cannot make the migrant child feel wanted; therefore, says Stockburger, the schools cannot properly educate these students. This is supported by Orr et. al. (1965) when he points out that since the migrant child cannot afford additional costs, he cannot participate in many school activities. Tinney (1965) reinforces this when he reports on the policy of some school systems which, he claims, do not provide either free lunches or free school supplies to the migrant pupil and, therefore, effectively ostracize the child.

Sutton (1960) calls the migrant children insecure for two prime reasons: continual moving forces the children to be constantly trying to make new friends whom they lose when the family moves again; a constant conflict between the expressed parental respect for education and the prohibition of this education by the responsibilities thrust on the children by the parents.

Effect of Teacher's Perception of Student

A recent study by Rosenthal and Jacobson (1968) tends to indicate that there is a direct positive relationship between the teacher's attitude towards a pupil and his academic achievement. The most recent writing by Rosenthal and Rubin on this matter, but as yet unpublished (1971), seems to attest to the validity of the original experiment.

The effect of teacher perception of individual pupils on the quality and quantity of verbal interaction with each child was the subject of a study by Kranz (1970). Her findings, which were based on data obtained using an interaction analysis instrument, seemed to indicate that "there are relationships between the perceptions a teacher has regarding a pupil and the kinds and frequency of certain teaching behaviors he directs towards that pupil."

Pertinent Doctoral Dissertations Concerned with Migrant Education

There are comparatively few doctoral dissertations completed and available for study and comparison. Merrill Frye Hurd (1960) studied the education of the children of agricultural migrants in the public schools of New York State. Included were seven different areas dealing with such factors as the attitudes of residents to the migrant child, curriculum, improved financial arrangements for the school district, health problems of the child, grade placement of the child, federal services provided to the students. In the decade since the completion of the study, many of the findings he documented have changed radically due, among other factors, to more government funds allocated to the development of programs for the migrants and more publicity devoted to the plight of these impoverished

people. Therefore, the study could probably be replicated and brought up to date.

The next study examined was the work of Rose Weidrick Moore (1964) who researched the summer school program for the children of Ohio in the summers of 1961, 1962, and 1963. She spent six weeks each session obtaining data from such sources as schools, health and employment records, and integrated these with materials from other states having "make-up schools." She was particularly interested in follow-ups showing certain children had returned to summer school in consecutive years. Her conclusions were:

1. That maintenance of summer or other make-up schools is necessary.

2. That the combined effort of all agencies to help the migrants in every phase of their lives is more effective.

3. That areas not affected by migrant population should be made aware of the migrant problem by means of mass media.

4. That more educational opportunities should be extended to junior high and senior high school youth regardless of age.

5. That compulsory school attendance be enforced for all children.

6. That a state supervisor should be responsible for the establishment and maintenance of every concern for the education of migrant children exclusive of other duties.

7. That kindergartens should be provided for the migrant children.

8. That adult education classes should be made available.

9. That testing instruments for achievement and aptitude should be devised for the child of this culture or multicultures.

10. That interstate communication should be better established with particular reference to academic and health records of cumulative type.

11. That teachers should have opportunities to be especially prepared for teaching migrant children.

12. That through personal service more residents should become interested in the plight of the migrant.

Again, the comment could be suggested that the educational processes focusing on the needs of the migrant child have changed considerably since this study was completed, and new research could be profitable.

A more recent dissertation by E. B. Scott (1968) concentrated on the educational programs for migrant children in 1967. He sent questionnaires to schools, state departments of education, labor departments, and migrant ministries represented in the 48 interconnected states. Of the 389 schools providing education to migrants, 276 responded to the questionnaire provided. His findings were:

1. Schools using federal funds are on the increase.

2. Special educational programs for migrant children were provided by 183 schools.

3. Most special educational programs were directed to language arts.

4. Regular school funds were the source most commonly utilized for the education of agricultural migrant children.

5. Most schools were providing some in-service training for teachers of migrants ranging from one day to forty days.

6. Of 1434 teachers, 16% held less than a bachelor degree, 70% had a bachelor and 40% had a master's degree.

7. 237 out of 276 reported provision of transportation.

An in-depth study of 15 migrant children was completed in 1969 by V. J. Garofalo. Included in his findings were the following:

1. Parents of migrants were very similar in their attitudes and actions towards education as parents of urban and rural "non-ordinary children."

2. Economic factors that demanded children to work in the fields or care for younger kin carried more importance than attending educational programs.

3. The majority of teachers of migrant children used the sex of the child as a criterion for attaching positive or negative characteristics.

4. Teachers' conclusions about the students were not the same as the students' evaluations of

their peers. The majority of the school personnel were insensitive to the children's feelings in general and academic/emotional needs in particular.

5. Migrant children of this study performed academically below their age group on the standardized measures. When amount of time spent in school was weighed into the scores, these children performed at a level far above that expected of "ordinary" children over the same time period of a school program.

6. Children who felt they were doing well in school thought that they had very high social peer position in school.

7. Vocational aspirations were generally described in terms of specific skills, e. g., cook, write, rather than job title.

Garofalo suggested that this is really only a pilot study; therefore, much more research needs to be completed in this area.

Summary of the Chapter

This chapter has presented a review of the literature relevant to the present study. The major characteristics of the migrant child were identified, and the educational problems resulting from his mode of existence were reviewed. The present systems of training teachers and aides to be sensitive to the special needs of migrant children were examined. The attitudes of the teacher and teacher aides to the migrant children led to an examination of several studies on the effects of the attitudes of the teachers on their behaviors towards the students. It seems that although the people responsible for the migrant education program are very aware of the special problems of the migrant child, no research had been conducted on the possible effect of teacher attitudes in the way the teacher interacts with the migrant pupil in the classroom.

CHAPTER III

DESIGN AND PROCEDURE

One of the basic assumptions of the migrant teacher and teacher aide training programs is that teachers and aides do not interact with migrants and non-migrants in the same ways. This notion had not yet been researched although it was included in the foundations of a number of inservice teacher training programs across the United States. The purpose of this study was to compare the verbal behaviors of teachers interacting with migrant and non-migrant students in the same classrooms. An investigation of past studies, as reported in Chapter II, suggested that the teacher's perceptions of the student might affect the teacher's behaviors towards that student. Further information seemed to be required as to the effect on the interactions between teacher and student if the student is perceived to be a migrant.

Design

Involved in this study were the following variables: the teachers who participated in the study, the teachers' perceptions of the students as migrant or non-migrant, the defined positive behaviors the teachers exhibited towards individual students, the defined neutral behaviors the teachers exhibited towards individual students, and the defined negative behaviors the teachers exhibited towards individual students.

The general plan of the study was to observe and record the verbal behaviors of teachers in classrooms having a mixed population of migrant and non-migrant students. The data gathered were to be analyzed to attempt to determine whether there were significant differences in the verbal behaviors teachers directed towards migrant and non-migrant children. A further interest was to be in which of the specifically defined areas of positive, neutral, and negative behaviors, these differences might be large enough to be of any statistical significance.

Procedure

The first decision was to determine which of the many instruments for interaction analysis would be the most suitable for this particular study. The basic requirements were: an instrument that would give data which would reflect as precisely as possible the verbal interactions of the teacher with each individual student; categories in the system which could be classified as positive, neutral, and negative interactions; an instrument that could be

or had been validated; and one whose intra- and inter-observer reliability was testable.

Of the several instruments examined, the Flanders System of Interaction Analysis (1967) seemed to fulfill the basic requirements if minor modifications were made. This system consists of ten categories of which seven are types of teacher behavior, two are student verbal behavior, and the last category is classed as silence or confusion (See Appendix A).

The first three categories are concerned with the teacher's acceptance of the student's feelings or ideas, and with praise and encouragement of the student. These were listed as "positive" teacher behaviors in the study.

All teacher questions are included in the fourth category. Giving opinions, explaining, discussing, and lecturing are the fifth category. These two classes were combined in the general term of "neutral" behaviors.

The sixth category is concerned with giving directions which the student is expected to obey--thus limiting his freedom. The seventh category is concerned with criticism and justification of authority. For the purposes of this study, these two were combined to form the "negative" behaviors of the teachers.

In the Flanders System of Interaction Analysis, the two categories eight and nine deal with different kinds of student responses--direct responses to a question and student initiated responses. Since this study was not examining any type of student response, it was decided to combine these in one group and number it eight. This was the only modification in the categories.

Another problem encountered was the need to devise a suitable method of identification for the particular student involved in each interaction with the teacher. Prior to the initial observation period, each teacher was given a seating chart and asked to write each child's name in the proper square. The observer then numbered each occupied seat with two numbers, the first referring to the row and the second to the column. This meant that each interaction required three numbers to be recorded, the first signifying the kind of interaction taking place and the next two indicating which particular child was involved in that interaction being recorded.

The Flanders System of Interaction Analysis is usually recorded in three second intervals unless the behavior changes in less than three seconds. If this occurs, the new category is recorded. For this study, it was decided to use a five second interval to record data because three digits had to be noted instead of the more usual one.

Two persons, the investigator and a researcher who had conducted a cognate study the previous year, participated in the data collection and are subsequently identified as the two observers in the study.

Approximately one hundred and fifty minutes of total observation time was devoted to each teacher over a number of class periods.

Recording all the data by hand would have been difficult so data recording devices were examined. A suitable one would have to be portable, relatively quiet, preferably battery-powered, and would record on tape so that the raw data could be preserved with a minimum of problems. Such a machine was found to be the Monroe 10 Calculator, a product of the Monroe Calculator Company. This machine uses ¼ inch paper tapes in a cassette, has batteries capable of from three to five hours continuous operation without recharging, is small, and is relatively quiet. Two of these machines obtained for the use of the two observers made it possible to record three digit segments of data more easily than would otherwise have been possible.

The two observers spent a week prior to going to the schools in training to become efficient in the Flanders System of Interaction Analysis. First, the observers agreed on the specific behaviors to be included in each category. The Role of the Teacher in the Classroom by Amidon and Flanders (1967) was used as a basis for the interpretation of the verbal behaviors being observed. A series of audio tapes of classroom verbal behaviors was used for practice. The results by the observers were compared with master matrices. The reliability of the observers was measured with the Scott Coefficient of Reliability as described by Flanders (1965) and by the end of the training period ranged from .797 to .868.

The principal of one of the local elementary schools was contacted for permission to continue the training sessions in actual classroom situations. Three different teachers were observed teaching lessons during this exercise. In one of these classrooms, there were no rows and columns of desks for the seating chart, so the system of identifying each child had to be modified for this situation. This was easily done by sketching a model of the room and drawing small squares to represent each child's desk and numbering the squares around the room. This method was satisfactorily used in several classrooms during the actual gathering of data.

A list of New York State schools conducting summer sessions was obtained from the New York State Migrant Education Department. Of the thirty-five schools on the list, nine were identified as having both migrant and non-migrant students. The person named as being in charge of the program was contacted in these schools for permission to use the school for a study using the Flanders System of Interaction Analysis. Mention was also made that students were needed from a variety of backgrounds, but no mention was made of the fact that this study was concerned with migrants and non-migrants only. Some schools were eliminated which did not mix migrants and non-migrants in the same classrooms. Several schools did not wish to have their routines upset and so refused admission. One school no longer had non-migrants. Finally, two schools, to be identified as school 1 and school 2, were selected to take part in the study. They were willing to assist in research and had enough teachers on staff to ensure that an adequate amount of data could be collected during the remaining four weeks of the summer session.

All teachers were chosen on the basis of sufficient whole class interaction in their classrooms and a willingness to be observed. Others volunteered but were rejected for reasons such as special reading teacher with too few students, preschool teachers with insufficient formal lesson

periods, physical education teachers with little interaction and craft teachers. In school 1, ten teachers were included in the study, and in school 2, five teachers participated.

In each school, the procedure was the same. The person in charge of the summer school program was approached first and asked to supply a list of names and room numbers of the teachers willing to participate, a school time table, and a school floor plan showing the location of the teachers to be in the study. Each teacher was assigned a number for the study. Then the two observers went into the classrooms and gave each teacher a seating chart and asked that each child's name be written in the proper place. The only requirement was that each child remain in the same seat during actual observation periods.

Data Collection

At the beginning of each observation session, the observer began by recording the numbers of the school and teacher, the date, and the time. If there were any interruptions during the data collection, the time was again recorded so the time during which the interactions were being observed could be calculated. When the lesson ended, the observer put the tape in an envelope bearing the teacher's name. Another teacher was then visited to ascertain whether the ongoing activities were suitable for data gathering. Class films and filmstrips could not be used. Assigned seatwork was not suitable.

Each evening the observers removed the data tapes from the envelopes and wound them on three inch plastic cores. The teacher number was checked before the tape was wound, and the additional observed time was noted on the teacher's data card. In this way, a constant record was kept of each teacher's time of observation.

When all the data were gathered at the school, each teacher was given a sheet of paper containing an alphabetical list of the students in that class and asked to identify the migrant students with an M. In this way, the teacher's perceptions of whether or not a child was a migrant was the criterion used in the study to identify the migrant and non-migrant students.

Sufficient data were gathered from the first school by the end of the second week. Both observers continued taking data at school 2 the third week. The data collection was completed by one observer the fourth week.

Upon completion of all data collection, the tapes were cut in approximately 8-inch sections and attached horizontally to 8½ X 11 inch sheets of white paper. Each sheet was marked with the teacher's name, number, the school's number, and then chronologically numbered. The pages were next microfilmed. The films were photographically enlarged to sheets approximately 18 X 24 inches. The purpose of this operation was to provide larger numbers for the keypunch operator to read and thus to aid in accuracy in transferring the data to cards ready for computer processing.

The next step was to write a computer program which would calculate the total number of verbal interactions in each category for each teacher. Chi Square computations were also included in the computer program.

Data Analysis Procedures

The statistical analyses for this study were accomplished through the use of Chi Square (Siegel, 1956, p. 175) procedures. A computer program was written, using Fortran IV to process the data (See Appendix B). Tables were derived from the computer output. The results of these analyses are reported in Chapter IV.

CHAPTER IV

RESULTS

The purpose of this study was to compare the verbal behaviors of teachers in interaction with migrant and non-migrant students in the same classroom. The assumption that teachers do not interact with migrants and non-migrants in the same ways was the basis for the hypotheses generated for the study. This chapter begins with a presentation of the hypotheses and the results derived from the procedures described in the previous chapter. The chapter concludes with further analysis of the data obtained during the observation periods.

Involved in this study were fifteen teachers--nine male and six female. Two schools from two different school districts were included. Of the two hundred and sixty-one pupils taking part in the study, one hundred and one were identified as migrant children and one hundred and sixty were identified as non-migrant children. Two observers gathered all the data during the period of time from July 19, 1971, to August 13, 1971.

Hypothesis 1

Hypothesis 1 was concerned with the comparison of the teacher behaviors towards migrants and non-migrants. It stated:

> H_1 Teachers do not interact with students perceived as migrant and non-migrant in the same ways.

Table 1 on pages 21 and 22 presents the results relevant to the comparison of total verbal teacher behaviors towards migrant and non-migrant students. The total number of teacher verbal interactions with migrants and verbal interactions with non-migrants is listed for each teacher included in the study. These totals were transformed to Chi Square values, as described in Appendix C. The computed values of Chi Square for eight of the fifteen teachers exceeded the critical value at the $P < 0.05$ level, and one at the $p < 0.10$ level. The data for these nine teachers, therefore, tended to support Hypothesis 1.

Hypothesis 2

Hypothesis 2 was concerned with the differences concerning the defined positive teacher behaviors in verbal interaction with migrant and non-migrant students. It stated:

> H_2 Teachers have more positive verbal interactions with students perceived as non-migrant than with students perceived as migrant.

TABLE 1

CHI SQUARE AND LEVELS OF SIGNIFICANCE OBTAINED FROM THE TOTAL NUMBER OF OBSERVED TEACHERS' VERBAL INTERACTION BEHAVIORS WITH MIGRANT AND NON-MIGRANT PUPILS

Teacher Number	Student Type	Number of Students	Teacher Behaviors (Total Tallies) Per Group	Grand	Defined Difference X^2		P
	Migrant	8	231				
01	Non-migrant	9	288	519	7.30(*)	M < N	0.025
	M	4	275				
02	N	11	883	1.158	1.60	M < N	--
	M	5	502				
05	N	9	844	1.346	13.99(*)	M > N	0.001
	M	3	210				
06	N	13	516	726	.82	M > N	--
	M	9	229				
07	N	12	538	1.767	.04	M < N	--
	M	4	88				
08	N	11	502	590	3.12	M < N	0.250
	M	4	234				
09	N	10	486	720	6.95(*)	M < N	0.050
	M	16	518				
10	N	6	277	795	14.68(*)	M < N	0.001
	M	13	445				
11	N	5	288	733	6.08(*)	M < N	0.050
	M	6	312				
12	N	11	443	755	7.71(*)	M > N	0.025

(Continued)

TABLE 1 (Continued)

Teacher Number	Student Type	Number of Students	Teacher Behaviors (Total Tallies) Per Group	Grand	Defined Difference X^2		P
15	M	6	222	970	4.08	M < N	0.250
	N	15	748				
16	M	9	599	999	12.85(*)	M > N	0.005
	N	9	400				
17	M	3	31	555	5.30(**)	M < N	0.100
	N	15	524				
18	M	9	280	683	3.99	M < N	0.250
	N	11	403				
20	M	2	57	931	7.24(*)	M < N	0.050
	N	13	874				

*p < Critical Value $X^2_{.05}(2) = 5.99$

**p < Critical Value $X^2_{.10}(2) = 4.61$

Table 2 on pages 24 and 25 shows the total positive verbal behaviors for each teacher in each of the areas of acceptance of pupil feelings, praise or encouragement and acceptance of pupil ideas. These behaviors were totalled to find the positive behaviors each teacher exhibited towards the migrant students and towards the non-migrant students. These totals were transformed to Chi Square values and compared with the critical values of Chi Square from the $p < 0.250$ to $p < 0.001$ levels of significance. The computed values of Chi Square for twelve of the fifteen teachers exceeded the $p < 0.05$ level of significance. Of these twelve teachers, eight interacted less with migrants than non-migrants. These data therefore tended to support Hypothesis 2.

Hypothesis 3

Hypothesis 3 dealt with the differences concerning the defined neutral teacher behaviors in verbal interaction with migrant and non-migrant students. It stated:

> H_3 Teachers have more neutral verbal interactions with students perceived as non-migrant than with students perceived as migrant.

Table 3 on pages 26 and 27 presents the results regarding the observed verbal teacher behaviors in the defined neutral categories. The neutral behavior interactions of each teacher with migrant students and with non-migrant students were tallied. These totals were transformed to Chi Square values and compared with the critical values of Chi Square from $p < 0.250$ to $p < 0.001$ levels of significance. Seven of these nine teachers interacted more with non-migrant students than with migrant students. Therefore, the scores of seven of these nine teachers tended to support Hypothesis 3.

Hypothesis 4

Hypothesis 4 was involved with the distributional differences concerning the defined negative teacher behaviors between the verbal interactions with migrant and non-migrant students. It stated:

> H_4 Teachers' verbal behaviors towards children perceived as migrant are more negative than towards children perceived as non-migrant.

Table 4 on pages 28 and 29 shows the observed negative verbal behaviors for each teacher in the areas of giving direction and criticizing or justifying authority. These behaviors were totalled to find the negative behaviors each teacher exhibited towards the migrant students and towards the non-migrant students. These totals were transformed to Chi Square values and compared with the critical values of Chi Square from $p < 0.250$ to $p < 0.001$ levels of significance. Eleven of the fifteen teachers observed showed degrees of difference larger than the $p < 0.05$ level of significance in the amount of negative interaction with migrant and non-migrant students. Six of these eleven

TABLE 2

CHI SQUARE AND LEVELS OF SIGNIFICANCE OBTAINED FROM THE TOTAL NUMBER OF OBSERVED TEACHERS' VERBAL POSITIVE INTERACTION BEHAVIORS WITH MIGRANT AND NON-MIGRANT PUPILS

Teacher Number	Student Type	Number of Students	Positive Behaviors (Tally Frequencies)				Defined Difference	X^2	P
			Acceptance of Pupil Feelings	Praise or Encouragement	Acceptance of Pupil Ideas	Total Positive Behaviors			
	Migrant	8	2	25	19	46			
01	Non-migrant	9	3	40	33	76	4.28(*)	M < N	0.050
	M	4	1	50	43	94			
02	N	11	15	167	149	331	4.49(*)	M < N	0.050
	M	5	3	44	82	129			
05	N	9	7	78	138	223	0.13	M > N	--
	M	3	0	47	17	64			
06	N	13	0	123	44	167	12.16(*)	M > N	0.001
	M	9	0	56	25	81			
07	N	12	0	143	48	191	19.00(*)	M < N	0.001
	M	4	1	14	25	40			
08	N	11	3	60	119	182	8.49(*)	M < N	0.005
	M	4	2	33	50	85			
09	N	10	3	56	77	136	10.59(*)	M > N	0.005
	M	16	1	60	42	103			
10	N	6	0	47	26	73	17.90(*)	M < N	0.001
	M	13	3	145	27	175			
11	N	5	2	74	15	91	5.49(*)	M < N	0.025
	M	6	0	50	66	116			
12	N	11	2	73	66	141	10.90(*)	M > N	0.001

(Continued)

TABLE 2 (Continued)

Teacher Number	Student Type	Number of Students	Positive Behaviors (Tally Frequencies)				Defined Difference	X^2		P
			Acceptance of Pupil Feelings	Praise or Encouragement	Acceptance of Pupil Ideas	Total Positive Behaviors				
	M	6	0	17	22	39				
15	N	15	6	68	54	128	2.23		M < N	0.250
	M	9	4	87	80	171				
16	N	9	2	50	58	110	13.24(*)		M > N	0.001
	M	3	4	5	3	12				
17	N	15	3	95	27	125	6.17(*)		M < N	0.025
	M	9	0	53	9	62				
18	N	11	0	81	11	92	1.40		M < N	0.250
	M	2	1	4	3	8				
20	N	13	12	68	60	140	8.05(*)		M < N	0.005

*p < Critical Value $X^2_{.05}(1) = 3.84$

**p < Critical Value $X^2_{.10}(1) = 2.71$

TABLE 3

CHI SQUARE AND LEVELS OF SIGNIFICANCE OBTAINED FROM THE TOTAL NUMBER OF OBSERVED TEACHERS' VERBAL NEUTRAL INTERACTION BEHAVIORS WITH MIGRANT AND NON-MIGRANT PUPILS

Teacher Number	Student Type	Number of Students	Neutral Behaviors (Tally Frequencies)			Defined Difference	X^2	P
			Asks Questions	Lecturing	Total Neutral Behaviors			
	Migrant	8	80	47	127			
01	Non-migrant	9	119	46	165	M < N	1.49	0.250
	M	4	114	40	154			
02	N	11	336	90	456	M < N	.63	--
	M	5	269	53	322			
05	N	9	463	117	580		.009	--
	M	3	89	39	128			
06	N	13	220	94	314	M > N	30.24(*)	0.001
	M	9	131	5	136			
07	N	12	291	26	317	M < N	30.47(*)	0.001
	M	4	38	2	40			
08	N	11	219	34	253	M < N	25.38(*)	0.001
	M	4	100	5	105			
09	N	10	237	30	267	M < N	.02	--
	M	16	247	85	332			
10	N	6	107	32	139	M < N	1.19	--
	M	13	194	8	202			
11	N	5	138	19	157	M < N	45.55(*)	0.001
	M	6	125	40	165			
12	N	11	208	67	275	M > N	.94	--

(Continued)

TABLE 3 (Continued)

Teacher Number	Student Type	Number of Students	Neutral Behaviors (Tally Frequencies)			Defined Difference X^2	P
			Asks Questions	Lecturing	Total Neutral Behaviors		
	M	6	91	57	148		
15	N	15	309	147	456	5.00(*) M < N	0.050
	M	9	254	85	339		
16	N	9	203	56	259	10.70(*) M > N	0.005
	M	3	6	4	10		
17	N	15	224	51	275	35.53(*) M < N	0.001
	M	9	138	15	153		
18	N	11	176	66	242	6.27(*) M < N	0.025
	M	2	14	32	46		
20	N	13	192	381	573	18.66(*) M < N	0.001

*p < Critical Value $X^2_{.05}(1) = 3.841$

**p < Critical Value $X^2_{.10}(1) = 2.71$

TABLE 4

CHI SQUARE AND LEVELS OF SIGNIFICANCE OBTAINED FROM THE TOTAL NUMBER OF OBSERVED TEACHERS' VERBAL NEGATIVE INTERACTION BEHAVIORS WITH MIGRANT AND NON-MIGRANT PUPILS

Teacher Number	Student Type	Number of Students	Negative Behaviors (Tally Frequencies)			Defined Difference	X^2	P
			Giving Direction	Criticizing or Justifying	Total Negative Behaviors			
	Migrant	8	31	27	58			
01	Non-migrant	9	32	15	47	M > N	2.82	--
	M	4	21	6	27			
02	N	11	62	34	96	M < N	1.39	--
	M	5	18	33	51			
05	N	9	24	17	41	M > N	15.58(*)	0.001
	M	3	7	11	18			
06	N	13	25	10	35	M > N	8.05(*)	0.005
	M	9	5	7	12			
07	N	12	10	20	30	M < N	3.50(**)	0.100
	M	4	6	2	8			
08	N	11	47	20	67	M < N	9.81(*)	0.005
	M	4	20	24	44			
09	N	10	41	42	83	M > N	22.9 (*)	0.001
	M	16	48	35	83			
10	N	6	33	32	65	M < N	20.68(*)	0.001
	M	13	55	13	68			
11	N	5	26	14	40	M < N	4.61(*)	0.050
	M	6	20	11	31			
12	N	11	20	7	27	M > N	8.37(*)	0.005

(Continued)

TABLE 4 (Continued)

Teacher Number	Student Type	Number of Students	Negative Behaviors (Tally Frequencies)			Defined Difference X^2	P
			Giving Direction	Criticizing or Justifying	Total Negative Behaviors		
	M	6	24	11	35		
15	N	15	95	69	164	11.76(*) M < N	0.001
	M	9	42	47	89		
16	N	9	22	9	31	28.03(*) M > N	0.001
	M	3	6	3	9		
17	N	13	70	54	124	9.39(*) M < N	0.005
	M	9	29	36	65		
18	N	11	36	33	69	.67 M > N	--
	M	2	1	2	3		
20	N	13	86	75	161	18.78(*) M < N	0.001

*p<Critical Value $X^2_{.05}(1) = 3.84$

**p<Critical Value $X^2_{.05}(1) = 2.71$

teachers had fewer negative interactions with migrants than non-migrants. These data tended not to support Hypothesis 4.

Table 5 on page 31 summarizes the results from Tables 1, 2, 3, and 4. It shows the significant findings from the Chi Square comparisons as well as the tendencies to favor migrant or non-migrant students for each teacher in each of the observed areas of total verbal behaviors, positive verbal behaviors, neutral verbal behaviors and negative verbal behaviors.

In total verbal behaviors, six teachers interacted significantly less with migrant than non-migrant students, but eleven teachers interacted less with migrants than non-migrants in total interaction. Three of the four teachers who interacted less with non-migrants in the total observed verbal interactions did so significantly.

Table 6 on page 32 examines the question of whether there are any distributional differences concerning the total of the defined positive, neutral and negative behaviors in the verbal interactions of teachers with migrant and non-migrant students. The total number of positive verbal behaviors with migrants, neutral verbal behaviors with migrants and negative verbal behaviors with migrants were obtained from the computer print-out. The Chi Square values for each category were calculated as explained in Appendix B. Similarly, the total number of positive verbal behaviors with non-migrants, neutral verbal behaviors and negative verbal behaviors with non-migrants were obtained. The Chi Square values for each category were computed. These values were totaled to find whether there were significant differences when compared with the critical value of Chi Square $X^2_{05}(2) = 5.9915$. Since this total was determined to be 7.1372, it was assumed there were significant differences in the total teacher behaviors with migrant and non-migrant students.

As a matter of interest, additional analyses were made of distributional differences concerning the total in each of the defined positive, neutral and negative teacher behaviors in the verbal interactions with migrant and non-migrant students. Chi Square values in each category were calculated from the data contained in the computer print-out as shown in Appendix B. The total Chi Square value in each category of positive, neutral and negative behaviors was compared with the critical value $X^2_{05}(1) = 3.841$. Table 9 on page Appendix B shows the results of these calculations. In the positive behavior and neutral behavior categories, there seemed to be significant differences, but this was not found to be the case in the negative behavior category.

Comparison of I/D and i/d Ratios

The next area examined was concerned with the teaching styles of the fifteen teachers included in the study. For this purpose, the Flanders (1966) systems of I/D and i/d ratios were used. The I/D is a ratio obtained by dividing the sum of the first four Flanders categories by the sum of the first seven categories. This basically is a comparison of the acceptance of student ideas and feelings, questions and praising of the student with the sum total of all of the teacher initiated interactions with the students. A relatively high number ($I/D > 0.50$) suggests an indirect teacher (Flanders, 1966). An

TABLE 5

SUMMARY OF TABLES 1, 2, 3, 4 INDICATING WHICH TEACHERS' VERBAL BEHAVIORS SIGNIGICANTLY FAVORED MIGRANTS OR NON-MIGRANTS

Teacher Number	Positive Behaviors		Neutral Behaviors		Negative Behaviors		Total Behaviors	
	M < N	M > N	M < N	M > N	M < N	M > N	M < N	M > N
01	*		x			x	*	
02	*		x		x		x	
05		x		x		*		*
06		*		*		*		x
07	*		*		**		x	
08	*		*		*		x	
09		*	x			*	*	
10	*		x		*		*	
11	*		*		*		*	
12		*		x		*		*
15	x		*		*		x	
16		*		*		*		*
17	*		*		*		**	
18	x		*		x		x	
20	*		*		*		*	
Total Significant	8	4	7	2	7	5	6	3
Total Tendencies	10	5	11	4	9	6	11	4

*p < 0.050
**p < 0.100
x tendency to favor

TABLE 6

DISTRIBUTIONAL DIFFERENCES CONCERNING THE TOTAL OF DEFINED POSITIVE, NEUTRAL AND NEGATIVE TEACHER BEHAVIORS IN THE VERBAL INTERACTIONS WITH MIGRANT AND NON-MIGRANT STUDENTS

Student Type	Number of Students	Positive Behavior Totals	Neutral Behavior Totals	Negative Behavior Totals	X^2 Total
Migrant	101	1225 $X^2 = 1.0433$	2407 $X^2 = 1.8247$	601 $X^2 = 1.7942$	4.6622
Non-migrant	160	2206 $X^2 = .5540$	4728 $X^2 = .9686$	1040 $X^2 = .9524$	2.4750
					$X^2 = 7.1372$*

Critical Value $X^2_{.05}(2) = 5.9915$

I/D ratio below 0.50 would relate to a more direct teaching style.

The i/d ratio eliminates the categories of 4 and 5 in calculating the indirect versus direct teaching styles. The sum of Flanders categories 1, 2, and 3 are compared with the sum of 1,2, 3, 6, and 7. Thus, the more neutral verbal behaviors are not included in the determining of the indirect-direct ratios of teaching styles. Here also an i/d ratio of 0.50 or greater is considered indirect and a ratio of less than 0.50 is considered direct. Table 7 on page 34 shows the comparison of I/D and i/d ratio for each teacher. The four teachers considered having "direct" teaching style, using I/D, were also found to be in the "pro-non" or favoring non-migrant group. Of the eleven "indirect" teachers, seven favored the non-migrants and four favored migrant students.

Using the i/d ratio to determine the teaching style resulted in three teachers being classed "direct" who had been in the "indirect" category previously. These seven teachers are all in the "pro-non" group, which had a greater number of interactions with non-migrant students than with migrant students. Of the eight remaining teachers who fall in the "indirect" teacher classification, four had a greater number of interactions with migrant students than non-migrants, and four had a greater number of interactions with non-migrant students than migrant students.

Figure 1 on page 35 is another illustration of the comparisons of I/D and i/d for each teacher in interaction with migrants and non-migrants. The vertical axis represents the I/D or i/d ratio for non-migrants and the horizontal axis represents the I/D or i/d ratio for migrants. Teacher 1 was indirect with both migrants and non-migrants using the I/D ratio, but direct with migrants while remaining indirect with non-migrants using the i/d ratio. Teacher 20 had the greatest movement. Using the i/d ratio, he was quite indirect with migrants, but using the I/D ratio shows him to be quite direct with both migrant and non-migrant students.

On the I/D section of the graph, the teachers are fairly close to the line which illustrates equal I/D ratios with migrants and non-migrants. On the i/d section of the graph, there is much more dispersion of the points illustrating the comparative i/d ratios of interactions with migrant and non-migrant students.

Table 8 on page 36 indicates the point biserial correlation between the dichotomous variable "i/d favors" and the ratio of migrant to non-migrant for each class. Using a 1 to indicate favoring non-migrant students and a 0 to indicate favoring migrant students, the point biserial correlation was found to be .1314. Since teachers 10 and 11 had classes with extremely deviant proportions of migrants, these two classes were omitted in the second calculation. This time the point biserial correlation was found to be .56. The third calculation in correlations was performed using a 1 to indicate majority and 0 to indicate minority. This yielded a point biserial correlation of .3825.

The conclusions drawn from these data indicate the possibility of a relationship between teacher interactions towards students perceived as migrant and the relative size of that group. The data do not say anything about the character of this relationship or even firmly establish that it exists. It is clear from the data, however, that the majority/minority dichotomy does not

TABLE 7

CATEGORIZATION OF TEACHERS EXHIBITING MORE DIRECT OR INDIRECT TEACHING STYLES AS INDICATED BY I/D and i/d RATIOS

Teacher Number	Greater Student Verbal Interaction	I/D Ratio	i/d Ratio	Difference between I/D and i/d	Teaching Style			
					I/D		i/d	
					Direct	Indirect	Direct	Indirect
01	Pro-non	.36	.41	.05	x		x	
02	Pro-non	.50	.63	.13		x		x
05	Pro-mig	.65	.72	.07		x		x
06	Pro-mig	.55	.70	.15		x		x
07	Pro-non	.77	.70	.07		x		x
08	Pro-non	.47	.40	.07	x		x	
09	Pro-non	.60	.51	.09		x		x
10	Pro-non	.59	.41	.18		x	x	
11	Pro-non	.62	.59	.03		x		x
12	Pro-mig	.57	.70	.13		x		x
15	Pro-non	.41	.39	.02	x		x	
16	Pro-mig	.59	.74	.15		x		x
17	Pro-non	.53	.44	.09		x	x	
18	Pro-non	.64	.48	.16		x	x	
20	Pro-non	.37	.41	.04	x		x	
Total					4	11	7	8

Direct ≤ .499
Indirect ≥ .500

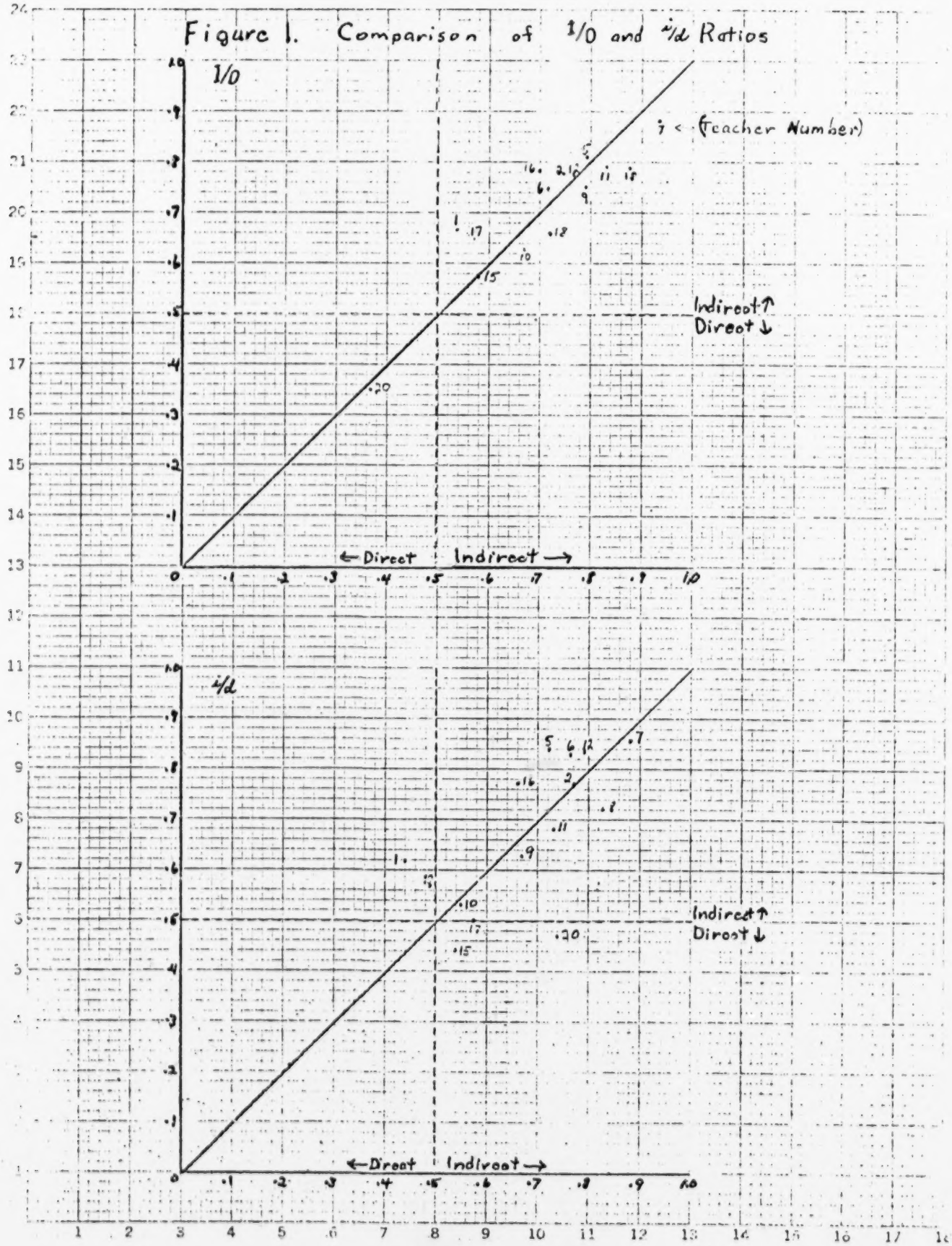
Figure 1. Comparison of i/o and i/d Ratios
i/o
i = (Teacher Number)
Indirect ↑
Direct ↓
← Direct Indirect →
i/d
Indirect ↑
Direct ↓
← Direct Indirect →

TABLE 8

THE POINT BISERIAL CORRELATION BETWEEN THE DICHOTOMOUS VARIABLE "i/d FAVORS" AND THE RATIO OF MIGRANT/NON-MIGRANT FOR EACH CLASS

Teacher Number	i/d Favors (1 = non. 0 = Mig) = X	Proportion of Class (mig/non-mig)=Y
01	1	8/9 = .8889
02	0	4/11 = .3636
05	1	5/9 = .5556
06	1	3/13 = .2308
07	0	9/12 = .7500
08	0	4/11 = .3636
09	0	4/10 = .4000
10	1	16/6 = 2.6667
11	1	13/5 = 2.6
12	1	6/11 = .5455
15	0	6/15 = .4
16	1	9/8 = 1.0
17	0	3/15 = .2
18	1	8/11 = .8182
20	0	2/13 = .1538

1. $r_{pt.\ bis.} = .1314$

2. With teachers 10 and 11 omitted, $r_{pt.\ bis.} = .56$.

3. The point biserial correlations between the variable "i/d favors" (where 1 = majority; 0 = minority) and the ratio of minority/majority is $r_{pt.\ bis.} = .3825$.

explain all of this relationship.

The summary of the findings and the conclusions resulting from these findings will be discussed in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of the Study

This study was concerned with trying to ascertain whether or not teachers differentiated in their verbal behaviors when interacting with migrant and non-migrant students. Three types of teacher verbal behaviors were identified and defined as positive, neutral, and negative. The Flanders System of Interaction Analysis was modified and used to collect observational data about each teacher's verbal behaviors during approximately a one hundred and fifty minute period. The particular students involved in the interactions were identified, and this information was recorded with the Flanders category whenever an individual student was addressed. After all the observational data had been collected in the school, the teachers were asked to identify the migrant students in their classes, and this information was recorded. The relationships between the observed teachers' verbal behaviors towards migrant and non-migrant students were then investigated.

Conclusions

This section begins with the conclusions relevant to the hypotheses tested in the study. This is followed by analyses of the I/D and i/d ratio tables and graph included in Chapter IV.

The data regarding the total teacher verbal behaviors with migrant and with non-migrant students indicated significant differences in the verbal behaviors of eight of the fifteen teachers included in the study. This tends to suggest that teachers do not interact the same ways with migrant and with non-migrant students. This conclusion is further reinforced by the findings reported from Table 6 on page 32 in which the totals for all the teachers of the defined positive, neutral, and negative teacher behaviors for migrants and for non-migrants were compared, and the differences were found to be of statistically significant size.

The data concerning the differences in defined positive teacher behaviors in verbal interaction with migrant and with non-migrant students showed significant differences for twelve of the fiteeen teachers involved. Of these twelve, eight had more positive verbal interactions with non-migrants than migrants. This result seems to support the notion that these teachers exhibit more positive verbal behaviors towards non-migrants than towards migrants.

The data regarding the differences in defined neutral teacher behaviors in verbal interaction with migrant students and non-migrant sudents yielded

significant differences for nine of the fifteen teachers in the study. Seven of these nine teachers interacted more with non-migrant students than with migrant students. While this is a large proportion of the teachers with tallies indicating a significant difference, it is not a large proportion of the total number of teachers. The reason for this may be that the Flanders categories from which these tallies are taken--questioning, lecturing--are verbal behaviors which make up the greatest bulk of the data. Thus, it would take a very large number of tallies, in proportion, to make significant differences.

The data regarding the differences in defined negative teacher behaviors in verbal interaction with migrant and non-migrant students indicated significant differences in verbal behaviors for eleven of the fifteen teachers. Six of these eleven teachers had fewer negative interactions with migrants than non-migrants. This result tends not to support the notion that these teachers have more negative interactions with migrants than with non-migrants. However, more teachers might have to be observed before a more definite statement could be made. Another problem in collecting data regarding the negative verbal behaviors of teachers is that they may not be inclined to be excessively critical and harsh with students when observers are in the classroom. The long observation period in each classroom--one hundred and fifty minutes--was an attempt to overcome this problem by having the presence of the observer become no longer a novelty.

In examining the summary data of the significant differences in teacher behaviors, it seems that more teachers in each of the categories of positive, neutral, and negative behaviors interacted less with migrant students than with non-migrant students. As a matter of fact, twice as many teachers in the positive behaviors and more than three times as many in the neutral behaviors interacted less with migrants; yet the totals of significant teacher behaviors are almost equal in the negative category.

This question of whether there were significant differences concerning the total of each of the defined positive, neutral, and negative teacher behaviors was examined and reported in Table 7 in Chapter IV. These data showed significant differences in teacher behaviors in the areas of positive verbal behavior and neutral verbal behaviors, but not in negative teacher verbal behaviors. This tends to support the findings reported in the previous paragraph.

At this point another topic must be of concern--the importance of the total number of teacher verbal interactions with students. The general implication here is that the more time a teacher gives in verbal interactions with a student, the greater opportunities that student has for learning. As Kranz (1970) pointed out in her study, the students who received the greatest number of teacher verbal interactions were indeed considered the highest achievers. As yet no research has been reported which shows that the students having the greatest number of verbal interactions with the teacher are the students who have achieved the greatest cognitive learning of which they are potentially capable. However, it would seem that the potential for greater achievement would be enhanced by exposure to the largest possible number of verbal interactions with the teacher. In the study being reported here, the findings seem to indicate that non-migrants received a significantly greater number of positive and neutral interactions. The conclusion, then, would seem to be that migrant students had significantly fewer verbal interactions with teachers. This would seem to suggest that migrant students in this study had

fewer opportunities to be the high achievers of the classes and to raise their achievement levels to become equal with the non-migrants.

The next area examined was the teaching style of the teachers as determined by the Flanders System of I/D, i/d ratio. Of the four teachers classified as direct using the I/D ratio, all were in the "pro-non" or favoring non-migrant group. When the i/d system of classification was used, a total of seven teachers were considered direct. These were also in the "pro-non" group. This seems to suggest that of the teachers in the study, the direct teachers tended to favor non-migrants.

Eleven teachers were considered to be indirect in the I/D ratio category. Seven of these teachers favored non-migrants, and the remaining four favored migrants. When the i/d ratio was used, the eight teachers falling in the category of indirect teachers were equally divided into favoring migrants, -4-, and favoring non-migrants, -4.

The only clear tendency in the I/D and i/d ratios of the teachers participating in this study is that the teachers classified as using a more direct style of teaching were also considered as favoring non-migrants, based on the relatively greater number of verbal interactions with non-migrant than with migrant students.

The last question examined was whether there was any correlation of the i/d ratios of the individual teachers with the proportion of migrant to non-migrant students in the class. Since two of the teachers (10,11) had a relatively large proportion of migrants in their classes, these teachers were not included in the preliminary calculation which yielded a correlation of .56. When teachers 10 and 11 were added, but the proportion inversed so that the non-migrants were compared with migrants, the correlation dropped to .45. This seems to suggest a possibility that a "minority" versus "majority" factor may have been involved here to some small extent rather than "migrant" versus "non-migrant."

Since the teachers participating in this study were chosen simply because they happened to be in a particular school at that time, but with no consideration taken of their teaching styles, teaching abilities, sex, race, or religion, they might be considered as a fairly typical sample of any summer school teachers. The non-migrant students in the study were children who had been experiencing major educational difficulties during the regular school year. The students compared as closely as possible in their learning problems with the problems of migrant children. Thus, while the results of this study pertain directly to these fifteen teachers and 261 students, the findings can have important implications in other educational situations involving teachers and migrant and non-migrant students.

Implications and Recommendations

One question which should be seriously raised when mixing migrant and non-migrant students in the same classroom is whether the migrant students will receive less total teacher interactions than the non-migrant student. This study seems to suggest that if no changes occur in the behaviors of the teachers in these mixed classrooms, the migrant child will probably receive less of the

teacher's verbal behaviors than the non-migrant child.

It should be recognized, however, that having more homogeneous classroom groupings might create problems which the mixed migrant and non-migrant classes do not presently have. It may also be possible that the pupils would greatly benefit by having only migrants or only non-migrants in the classroom. Therefore, further studies are recommended which might ascertain whether or not other problems might be caused by the separation of migrant and non-migrant pupils, or whether the children would benefit by this arrangement. It should be noted here that this study was concerned with teachers' verbal behaviors and did not measure the students' achievements. The possibility exists that the migrant students received benefits from being in mixed classrooms that compensated for the fewer verbal interactions. This possibility should be examined.

The simplest way to overcome the problem of the migrant child receiving less teacher verbal interaction than the non-migrant is not to mix the migrant and non-migrant students in the same classroom. Sometimes this is not economically feasible. If this is so, then intensive inservice programs for the training of the teachers could be developed, utilizing such means as micro-teaching and films to create an awareness in the teachers of the reality of the problem.

The findings of this study seem to suggest that the teachers exhibiting a more direct teaching style tended to favor the non-migrant student. This notion needs much more research before it can be stated that the teaching style used by the teacher affects the quantity and quality of the verbal interactions the teacher has with the migrant or the non-migrant pupils. In this particular study, all of the teachers who were considered to use the direct teaching style also favored the non-migrant student. When the teacher verbal interactions for these direct teachers were examined to see in which categories the non-migrants were favored, for five of the seven teachers the non-migrants received significantly more of the positive interactions. The same results were found in the neutral and negative categories. The possibility that the direct teachers interact differently with migrants and non-migrants if migrants are in the minority in the classroom was not found to be the case in this study. However, this notion would need to be researched more completely to provide more definite conclusions.

If direct teachers do favor non-migrants, then an attempt should be made either to retrain the teachers to use greater variety in their styles or to make an effort to employ teachers who do use a more indirect style of teaching. This would certainly not guarantee that migrants would then receive an equal number of teacher verbal interactions, but it might be of some value in beginning to adjust the discrepancy.

Further research might be desirable to ascertain whether or not a larger number of teachers and students in a similar study would show a definite tendency in the negative teacher verbal behaviors category. This study seemed to indicate that migrants and non-migrants shared negative verbal behaviors almost equally.

It might be of value to ascertain whether a replication of this study during the normal school year rather than during the summer sessions would yield the same results, or whether a study in which migrants and non-migrants were objectively identified would have findings similar to this one.

APPENDIX A

CATEGORIES FOR INTERACTION ANALYSIS

SUMMARY OF CATEGORIES FOR INTERACTION ANALYSIS

1. * ACCEPTS FEELING: accepts and clarifies the feeling tone of the students in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings is included.
2. * PRAISES OR ENCOURAGES: praises or encourages student action or behavior. Jokes that release tension, but not at the expense of another individual; nodding head, or saying "um hm?" or "go on" are included.
3. * ACCEPTS OR USES IDEAS OF STUDENTS: clarifying, building, or developing ideas suggested by a student. As teacher brings more of his own ideas into play, shift to Category 5.
4. * ASKS QUESTIONS: asking a question about content or procedure with the intent that a student answer.

5. * LECTURING: giving facts or opinions about content or procedures; expressing his own ideas, asking rhetorical questions.
6. * GIVING DIRECTIONS: directions, commands, or orders with which a student is expected to comply.
7. * CRITICIZING OR JUSTIFYING AUTHORITY: statements intended to change student behavior from nonacceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.

8. * STUDENT TALK - RESPONSE: talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
9. * STUDENT TALK - INITIATION: talk by students, which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.

10. * SILENCE OR CONFUSION: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

* There is NO scale implied by these numbers. Each number is calssification; it designates a particular kind of communication event. To write these numbers down during observation is to enumerate--not to judge a position on a scale.

From: Amidon, Edmund J. and Flanders, Ned A., The Role of the Teacher in the Classroom, Assoc. for Productive Teaching, Inc., Minneapolis: 1967, p. 14.

APPENDIX B

COMPUTATIONAL PROCEDURES USED IN STUDY

TABLE 9

DISTRIBUTIONAL DIFFERENCES CONCERNING THE TOTAL IN EACH OF THE DEFINED POSITIVE, NEUTRAL AND NEGATIVE TEACHER BEHAVIORS IN THE VERBAL INTERACTIONS WITH MIGRANT AND NON-MIGRANT STUDENTS

Student Type	Number of Students	Positive Behavior Total	Neutral Behavior Total	Negative Behavior Total
Migrant	101	1225 $X^2 = 7.9074$	2407 $X^2 = 45.2755$	601 $X^2 = 1.8103$
Non-migrant	160	2206 $X^2 = 5.0243$	4728 $X^2 = 28.6914$	1040 $X^2 = 1.1537$

Critical Value $X^2_{.05}(1) = 3.841$

SAMPLE COMPUTATIONS USED TO GENERATE EXPECTED VALUES AND CHI SQUARE VALUES IN APPENDIX C

For teacher 1.

To compute expected values for migrants:

positive category = $\frac{\text{number of migrants}}{\text{total no. in class}} \times$ total tallies in category = $\frac{8}{17} \times 122$ = 57.41

neutral category = $\frac{8}{17} \times 292$ = 137.41

negative category = $\frac{8}{17} \times$ = 49.41

Total of expected tallies = 244.23
Total of observed tallies = 231

Expected value for positive = $\frac{231}{244.23} \times 57.41$ = 54.30

Expected value for neutral = $\frac{231}{244.23} \times 137.41$ = 129.97

Expected value for negative = $\frac{231}{244.23} \times 49.41$ = 46.73

To compute Chi Squares for positive category:

$$\frac{\text{Migrant data (observed-expected)}^2}{\text{expected}} + \frac{\text{Non-migrant data (observed-expected)}^2}{\text{expected}}$$

$$= \frac{(46-57.41)^2}{57.41} + \frac{(76-64.59)^2}{64.59} = 4.285$$

Table 1.

Tallies were obtained from the computer printout which is included in Appendix C.

X^2 was computed by using the observed and expected values for migrants and non-migrants in the total tallies.

For teacher 1:

$$\frac{(116-54.30)^2}{54.30} + \frac{(76-67.70)^2}{67.70} + \frac{(127-129.97)^2}{129.97}$$

$$+ \frac{(165-162.03)^2}{162.03} + \frac{(58-46.73)^2}{46.73} + \frac{(47-58.27)^2}{58.27} = 7.303$$

The critical values of X^2 were obtained from statistical tables in Hays, Statistics for Psychologists, p. 675.

Table 2.

The positive behavior data were obtained from the computer printout which is included in Appendix C. The method by which X^2 was computed for this table has been shown above. The critical values of X^2 were obtained from Hays, Statistics for Psychologists, p. 675.

Tables 3 and 4 were derived by the same means as Table 2.

Table 6

Chi Square for Table 6 was computed by squaring the difference between the observed and expected value and dividing this by the expected value. The expected value for total positive behaviors was found by the following means:

	Migrant	Non-migrant	
	Observed	Observed	Total Observed
Positive Values	1225	2206	= 3431
	Expected 1189.7618	Expected 2241.238	
	Observed	Observed	
Neutral Values	2407	4728	= 7135
	Expected 2474.1914	Expected 4660.8085	
	Observed	Observed	
Negative Values	601	1040	= 1641
	Expected 569.0466	Expected 1071.9533	
Total Observed =	4233	7974	12207

$$\frac{\text{raw total}}{\text{total}} \times \frac{\text{column total}}{\text{total}} \times \text{total} =$$

$$\frac{3431}{12207} \times \frac{4233}{12207} \times 12207 = 1189.7618$$

Chi Square for the positive behaviors $\frac{(1225-1189.7618)^2}{1189.7618} = 1.0433$

Table 7.

To compute Chi Square for each category, it was necessary to obtain the total observed behaviors in each category and the total expected behaviors in each category. These were found in the computer printout.

Sample calculation for positive behavior totals for migrants:

$$\frac{(\text{Total observed} - \text{Total expected})^2}{\text{Total expected}} = \frac{(1225-1327.45)^2}{1327.45} = 7.9074$$

Table 8.

The method used to calculate I/D is to divide the totals of categories 1 to 4 by the totals of categories 1 to 7.

Sample for teacher 1:

$$\frac{5+74+67+507}{5+74+67+507+935+153+54} = \frac{653}{1795} = .3637$$

The method used to compute i/d is to divide the totals of categories 1 to 3 by the totals of 1 to 3 plus 6 and 7.

Sample for teacher 1:

$$\frac{5+74+67}{5+74+67+153+54} = \frac{146}{353} = .4135$$

Table 9.

This table used the point biserial correlation of the Pearson product moment correlation which uses the formula:

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[N\Sigma x^2-(\Sigma x)^2][N\Sigma y^2-(\Sigma y)^2]}}$$

APPENDIX C

RESULTS OF OBSERVATIONS OF TEACHER'S VERBAL INTERACTION BEHAVIORS WITH MIGRANTS AND NON-MIGRANTS

Because information contained on these computer printouts may be useful for further study, we have not incorporated Appendix C in the present publication but will make the information available to anyone interested upon request.

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